International
Labour
Organization

A STEP BY STEP APPROACH

INTEGRATING TB INTO HIV WORKPLACE PROGRAMMES

2011

ILO programme on HIV/AIDS and the World of Work

INTRODUCTION

Efforts to address HIV, AIDS and TB have been managed separately for many years, despite the overlapping epidemiology of both diseases. While some HIV workplace programmes have included TB, others have focused only on HIV. Co-managed HIV/TB programmes have been shown to improve both effective control of TB among people living with HIV and management of HIV among TB patients. HIV/TB joint programmes have become a priority for UNAIDS. A joint HIV/TB workplace programme enhance opportunities to improve workers health.

HIV/TB workplace programmes provide an opportunity for voluntary and confidential TB screening for workers living with HIV. Patients tested positively for TB can be given timely treatment to prevent the infection from developing into TB disease. Others who already have TB disease can begin to receive treatment. Similarly HIV/TB workplace programmes provide an opportunity for workers with TB to be tested for HIV and provided with anit-retroviral medication (ARV) for treatment if necessary. This joint management approach contributes to the early identification of those in need of ARV. The integration of TB into HIV workplace programmes is a cost-effective way to respond to the dual HIV/TB epidemics.

PURPOSE

This guide is designed as a practical tool to support ILO HIV Focal Persons and National Project Coordinators (including other ILO staff) to integrate TB into existing HIV/AIDS workplace programmes and policies at the national level. It acknowledges the fact that the world of work consists of a wide range of actors including multinational companies, national enterprises, small and medium enterprises (SMEs), micro enterprises and informal economy operators, all in the private sector. It also includes workplaces in the public sector. While multinational enterprises may be able to provide a wide range of TB services to their workers, SMEs and informal economy operators are likely to offer fewer services and rely more on establishing referral arrangements with public service providers. Adapting the contents of this guide to suit the needs and structure of each workplace is therefore essential. A basic assumption made during the development of this guide is the presence of an existing HIV/AIDS workplace programme.

This guide is divided into two sections. The first section focuses on a step by step (8-step) approach to integrating TB into existing HIV workplace programmes. The second section is a question and answer (Q&A) section developed to provide basic information on TB and HIV.

HOW TO USE THE GUIDE

In the first section, users are encouraged to work through the 'steps' in this guide in a flexible and adaptable manner, rather than as a rule. The 8 steps range from Preparatory information-gathering (step 1) to Monitoring and evaluation of TB/HIV workplace programmes (step 8). The 8 steps include:
Step 1: Preparatory information-gathering on TB in your situation
Step 2: Identifying target enterprises
Step 3: Advocacy and awareness-raising on TB/HIV workplace programming
Step 4: Identifying potential partners for the project
Step 5: Assessing and building upon what currently exists in the HIV workplace programme
Step 6: Conducting baseline survey at the workplace
Step 7: Programme implementation
Step 8: Monitoring and evaluation

The second section consists of a Q&A on TB/HIV which provides basic information on TB and HIV/AIDS from the perspective of the workplace. It would be useful to read through section two before section one. This will provide you with basic TB knowledge and make you better prepared to address the contents of section 1.

A list of further reading is provided in annex 3.

BACKGROUND

The HIV epidemic has contributed to the re-emergence of TB in many parts of the world. Both diseases are so closely associated that the term 'co-epidemic' or 'dual-epidemic' is often used to denote the relationship. The intersecting epidemics are often called TB/HIV or HIV/TB. TB is currently the leading cause of death among people living with HIV. Treatment of TB in people living with HIV (PLHIV) prolongs their lives. HIV infection also increases the rate of progression of TB. Current statistics on TB and HIV are included in section 2 of this guide.

The Joint United Nations Programme on HIV/AIDS (UNAIDS), has identified TB/HIV as one of its priority areas in the new UNAIDS Strategy 2011 – 2015. Reducing TB deaths among people living with HIV (PLHIV) by half is a goal of the UNAIDS Strategy 2011-2015. HIV/AIDS workplace programmes have been implemented in many countries as part of the multisectoral approach to addressing the epidemic. While some of these workplace programmes have included TB, others have focussed only on HIV. The implementation of joint TB/HIV workplace programmes should reduce the number of missed opportunities to integrate both diseases and improve health outcomes for vulnerable male and female workers.

KEY PRINCIPLES IN IMPLEMENTING JOINT TB/HIV WORKPLACE PROGRAMMES

The general principles guiding the development and implementation of joint TB/HIV workplace programmes include:
  - The recognition of TB as a workplace issue;
  - Tripartism (or bipartism at the enterprise level) and social dialogue;
  - Gender equality;
  - Protection of the rights of workers;
  - Non-discrimination;
  - Confidentiality;
  - Continuation of employment relationship as well as
  - Prevention, treatment care and support

Other important principles include sustainability, evidence-based decision-making, forging partnerships and adopting a results-based approach.

STRATEGY FOR TB/HIV WORKPLACE PROGRAMME

In line with the WHO policy guidelines on collaborative TB/HIV activities, TB/HIV workplace programmes should focus on the following:

1. Establishing a TB/HIV steering committee at the workplace with the following responsibilities:
   a. Coordinating TB/HIV workplace activities at all levels
   b. Undertaking joint TB/HIV planning at the workplace
   c. Ensuring a joint TB/HIV monitoring and evaluation framework
   d. Developing and implementing an HIV/TB workplace policy based on guidelines given in the ILO Code of Practice and the Recommendation concerning HIV and AIDS and the World of Work 2010, (No.200)

2. Decrease the number of TB infected persons among people living with HIV by
   a. Improving knowledge on TB symptoms in the workplace and increasing the identification of TB patients
   b. Working with health facilities to initiate TB preventive therapy for workers with TB infection (not TB disease)
   c. Providing workers with the possibility of TB control in the workplace (including Directly Observed Therapy Short course (DOTS) where feasible)

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3. <u>Reducing the burden of HIV in TB patients through:</u>
    a. Encouraging voluntary counselling and testing (VCT) for workers with TB.
    b. Strengthening HIV/AIDS prevention, treatment, care and support activities among TB patients.
    c. Working with the health facilities to introduce co-trimoxazole preventive therapy where necessary (this reduces the incidence of opportunistic infections)

The following are the eight key steps to integrate a TB component into an HIV workplace programme:
1. Gathering preparatory information
2. Identifying target sectors and enterprises
3. Advocate and raise awareness
4. Build alliances and partnerships
5. Assess and build on existing HIV workplace programmes
6. Conduct a baseline assessment at the workplace
7. Implement the programme
8. Monitor and evaluate

SECTION 1

Step 1: Preparatory information-gathering on TB in your context

The purpose of this step is to obtain country-specific information on TB/HIV programmes and understand the global TB/HIV policy guidance framework within which the country is operating. An in-depth understanding of the context is key to the development of tailored TB/HIV workplace programmes which address the specific needs of men and women workers in your country.

The first step of the process involves gathering relevant information on a wide range of TB related issues at the national and sectoral levels. **The TB/HIV workplace programme must be implemented in harmony with the national TB and/or HIV/AIDS policy and programme**. A good understanding of the TB environment at the national level is thus an essential starting point when planning for a TB/HIV workplace programme. In this regard, it is important to obtain and review existing national and sectoral (i.e. workplace) TB policies and guidelines. The following documents should be reviewed (where they exist):

- National TB Policy
- National TB/HIV Policy
- National TB Programme
- National HIV and AIDS policy (any references to TB?)
- National TB/HIV Strategy
- National guidelines for TB/HIV Programmes
- Guidelines for managing TB/HIV co-infections
- Other national documents on TB and/or HIV

The review of sector-specific documents which specifically focus on the workplace is recommended. The following documents (where available) would be useful:

- National TB Workplace Policy
- National TB/HIV Workplace Policy
- National HIV Workplace Policy (any references to TB?)
- Other Sectoral TB and/or HIV policies or strategies
- Enterprise TB/HIV workplace policies

It is also essential to obtain information on the latest country specific TB and TB/HIV epidemiological information and new research on TB prevalence and incidence rates, TB/HIV co-infection rates and the extent of MDR-TB and XDR-TB. These may be obtained from sources such as:

- National TB Programme (NTP) offices
- Local government offices (at the community level)
- Public sector health services
- Non Governmental Organizations (NGOs) working in the area of TB
- WHO offices

Finally, you should make use of ILO, WHO and UNAIDS publications on TB/HIV and TB programmes such as:

- *ILO/WHO Guidelines for Workplace TB Control Activities (2003)*
- *WHO Interim Policy on Collaborative TB/HIV Activities (2004)*
- *WHO Strategic Framework to decrease the burden of TB/HIV (2002)*
- *Guidelines for implementing TB and HIV collaborative programme activities (2003)*
- *The joint WHO-ILO-UNAIDS policy guidelines on improving health workers' access to HIV and TB prevention, treatment, care and support services: A guidance note (2011)*

These four documents, which provide a global overview, are online and the links to them have been included in the annex.

Step 2: Identifying target enterprises

> The purpose of this step is to base the identification of the target sectors and enterprises on the TB risk factors in the sectors/enterprises. It is important to note that the conditions in the workplace as well as conditions outside the workplace (living conditions) should influence the identification of target sectors/enterprises.

Before identifying the target sectors and enterprises, it is essential to undertake a mapping exercise of all ongoing HIV/AIDS workplace programmes. Since this guide supports the integration of TB into existing HIV/AIDS workplace programmes, it is essential to take stock of all ongoing HIV/AIDS workplace programmes and note the sectors in which the programmes are being implemented.

The identification of target enterprises should come from ongoing HIV workplace programmes. The decision to focus on specific sectors and/or enterprises should be influenced by the level of risk of workers in the identified sectors and/or enterprises to TB. It is worth noting that some sectors provide more risk to workers than others. Fig 1 (below) provides guidance in identifying appropriate sectors and/or enterprises to focus on.

Fig 1: Potential TB risk factors by sector

SECTOR	Some potential risk factors (not always applicable)
Mining	- Exposure to silica dust [and silicosis] - Cramped and poorly ventilated living quarters - High HIV prevalence - Potential risky sexual behaviours among some miners owing to long periods away from home.
Prisons	- Cramped and congested and poorly ventilated living area - Poorly ventilated living area - Poor nutrition - Substance abuse
Refugee camps	- Cramped and congested living area - Poor health and nutrition - High stress among refugees
Brothels (commercial sex workers)	- High rates of HIV - Potential risky sexual behaviour conducive to HIV exposure - Poor living conditions - Poor access to healthcare - Possible risky behaviour linked to substance abuse among sex workers
Construction	- Exposure to silica dust - Poor living conditions - Substance/alcohol abuse by some workers
Healthcare workers	- Occupational exposure to TB - Occupational exposure to HIV - High levels of stress (due to high workload in some cases)
Migrant workers	- Poor living & working conditions - Barriers to health access, incl. language, abuse of rights

Step 3: Advocacy and awareness-raising on TB/HIV workplace programming

The purpose of this step is to secure buy-in from the leadership of ILO constituents (i.e. Ministries of Labour, Employers' organizations and Workers' organizations), the Project Advisory Board as well as the selected Enterprises. The initial buy-in and support is essential for long term sustainability and also facilitates programme implementation.

Advocacy, sensitization and awareness-raising on TB/HIV joint programming are key elements of the strategy to integrate TB into existing HIV workplace programmes and policies. Obtaining buy-in at all levels is crucial to the sustainability of joint TB/HIV workplace programmes. Advocacy and sensitization should target at least 3 key groups

1. ILO constituents (ministries of labour, employers' organizations and workers' organizations) at the national and sectoral levels
2. Project Advisory Board (PAB) members
3. Selected enterprises (ie, enterprises chosen for the integrating TB into existing HIV workplace programmes)

Target 1: ILO constituents at the national and sectoral levels
Undertaking advocacy, sensitization and awareness-raising sessions with ILO constituents at the national level is key to ensure strong ownership and buy-in at the highest level. Advocacy may be targeted at the leadership in Ministries of Labour, Employers' organizations and Workers' organizations. It may also be targeted at HIV/AIDS Focal persons, HIV/AIDS Peer educators, Labour Factory Inspectors in Ministries of Labour, staff from Occupational Safety and Health structures in the 3 constituents and all other staff whose role may be relevant to the response against TB and HIV.

In addition to national level advocacy, it is useful to target the leadership in specific sectors in which enterprises have been identified for joint TB/HIV workplace programmes. For example, if the Mining sector is targeted, it will be necessary focus on the Chamber of Mines and Mine workers' organization in the country. The process of advocacy, sensitization and awareness raising could be undertaken by adapting the approach highlighted in box 1 (below)

Box 1: Organizing a session for advocacy, sensitization & awareness raising with ILO constituents

Aim of Advocacy, sensitization and awareness raising
The aim of this session is to achieve buy-in from ILO constituents on the relevance and importance of joint TB/HIV workplace programmes. Based on the outcome of the initial advocacy, a comprehensive TB/HIV workplace programme (including a TB/HIV workplace policy) may be developed and implemented with ILO support at a later stage.

Preparatory phase:
1. Obtain adequate information on the relevance/importance of joint TB/HIV programming in the workplace from a global perspective (statistics in section 2 of this manual may be useful)
2. Obtain adequate information on the relevance/importance of joint TB/HIV programming in the workplace from a country level perspective (Step 1 of this guide will be useful in this regard)
3. Obtain adequate information on the relevance/importance of joint TB/HIV programming in the workplace in the particular sector under consideration (eg mining sector)
4. Obtain good examples of joint TB/HIV workplace policies
5. Obtain good practice examples of joint TB/HIV programmes in your country or elsewhere.

Content of advocacy/sensitization:
The advocacy session should:
1. Cover the relevance/importance of joint TB/HIV programming both at the global and national levels

2. Emphasize the benefits of joint TB/HIV workplace programmes (from the perspective of health outcomes)
3. Emphasize the benefits of joint TB/HIV workplace programmes (from the perspective of cost-effectiveness)
4. Show some good practice examples of joint TB/HIV programmes in the workplace at the national level
5. Highlight the contents of good TB/HIV workplace policies and encourage the development of joint TB/HIV workplace policies

Conclusion:
1. Conclude by securing buy-in from ILO constituents at the national level on the importance of developing TB/HIV workplace policies and implementing joint TB/HIV workplace programmes
2. Conclude by securing commitment from the national leadership of ILO constituents to actively support the implementation of joint TB/HIV workplace programmes and policies at the national and enterprise levels
3. Conclude by agreeing on the next steps for direct action on TB/HIV initiatives in the workplace. (The next steps may include training, policy development, etc)

Target 2: Members of the Project Advisory Board (PAB)
In many countries in which the ILO is supporting the implementation of HIV workplace programmes, PABs have been formed to provide leadership, guidance and stewardship of the workplace programmes. The membership of PABs is multisectoral and may include representatives from ILO constituents, the National AIDS Council, UNAIDS, Persons living with HIV, etc. **The decision to shift from addressing HIV/AIDS to addressing TB/HIV means there is the need to include representation from the National TB Programme (NTP) on the PAB**. Advocacy with the PAB may be undertaken in partnership with the National TB Programme (NTP) or other identified partners and may be guided by the contents of Box 1. The contents of Box 1 may thus be adapted to suit the needs of members of the PAB.

Target 3: Enterprise-level advocacy
To effectively implement TB/HIV workplace programmes and policies at the enterprise level, advocacy and sensitization sessions must be undertaken with representatives of the following groups:
- CEOs and Management
- Workers' representatives
- Steering Committee members
- Peer educators
- Members of Safety committees (or Occupational Safety and Health structures)
- Enterprise clinic and medical staff

Advocacy and sensitization may be undertaken in partnership with the NTP, the enterprise clinic and/or any organization with considerable expertise in TB. The contents of Box 1 could be adapted to guide the process of advocacy/sensitization at the enterprise level. **Fig 3 of Section 1** could also be used to make a case for building on existing structures to implement comprehensive TB/HIV workplace programmes and policies in a cost effective manner.

For all these three main groups, you may wish to conduct special sessions with the objective to initiate the development and implementation of a comprehensive HIV/TB workplace policy and programme. The following steps will be useful:

Preparation
Collect up to global statistics on HIV, TB and HIV/TB co-infection
Collect up to date information on joint HIV/TB programming by country, sector (e.g. mining) and enterprise.
Have ready models of joint HIV/TB workplace policies and programmes

Advocacy

Present statistics showing how TB worsens HIV and how HIV makes a worker more vulnerable to TB. Use statistics from global, national, sectoral and enterprise levels.

Present data and evidence on the benefits of joint HIV/TB workplace programmes both to improve health outcomes and cost-effectiveness.

Provide good practice examples of joint HIV/TB workplace programmes and policies from your geographic region.

Conclusion

Find out what is needed (time, human and financial resources) to establish a joint HIV/TB workplace policy and programme in the target sector or enterprise.

Suggest technical assistance to support this

Reach an agreement on an action plan (including timed phases) for joint HIV/TB initiatives in the workplace.

Step 4: Identifying potential partners for the project

> The purpose of this step is to forge PARTNERSHIPS. Compiling a list of potential partners in the region/district or community is key to facilitating crucial strategic partnerships which improve the effectiveness of the programme and enhance sustainability. The NTP is a highly recommended partner. It is also very necessary to establish referral mechanisms with existing public health facilities.

After identifying the focus sectors and/or enterprises for the project, it is necessary to identify all TB providers in the area. Planning and implementing programmes in cooperation with partner organizations is both easier and more efficient and has a better chance of ensuring sustainability. It is thus important to identify all organizations involved in TB and/or TB/HIV activities within the region/district/province/community of the workplace. Some of the important potential partners may include the following:

- National TB Programme offices in the region
- Public health facilities providing TB services (for establishing referral mechanisms)
- Private health services providing TB services (for establishing referral mechanisms)
- Non Governmental Organizations involved in TB (International and local)
- Community Based Organizations involved in TB
- Community and Religious leaders
- Local Government offices/officials
- Networks of people living with TB and/or TB/HIV
- Consultants working on TB in the region
- Specialised healthcare contractors
- Home based care units in the community
- Multilaterals within the region

The second stage of this process involves the documentation of the different skills and expertise of each of the potential partners. Fig 2 (below) provides an example.

Fig 2: Building alliances and partnerships

Potential partner	Skills and competencies
National TB programme	Responsible for coordinating national TB response, incl. policy framework and stewardship of national TB programme. Facilitates external stakeholder participation.
Community-based organizations	Provide community-based programmes on TB. Strong community knowledge and contacts. Access to funding for passive screening for TB. Skills and expertise in behaviour change communication
TB patient groups	Consist of present and past TB patients and serve as support groups for TB patients & families. Good knowledge of TB management within the workplace and community and useful resource in TB control workplace programmes
Public health facilities	Responsible for the treatment of TB within the district/community. Have skills and competencies in screening for TB, treating TB, DOTs, training in TB, treatment of TB, MDR-TB and XDR-TB.
Others (community and religious leaders, local government offices, specialists working on TB and/or HIV)	These actors can promote awareness raising, mobilize community for screening test to support early detection and treatment of TB and HIV. TB specialists

Step 5 – Assessing and building upon what exists in the HIV workplace programme

> The purpose of this step is to <u>identify all possible entry points</u> for the integration of TB into the existing HIV workplace programme structure. The integration of TB into existing HIV workplace structures also enhances sustainability.

It is always necessary to integrate TB into existing HIV workplace programme structures where they exist and where TB is closely linked with HIV. This strategy minimizes the creation of vertical programmes and contributes towards ensuring sustainability. By aligning the TB programme with the existing HIV programme structure, we can avoid re-inventing the wheel and minimize duplication. In this regard, it may be useful to assess what exists within the HIV workplace programme and explore the possibility of including TB at every stage of the implementation process. Fig 3 below provides an example.

Fig 3: Integrating TB into existing HIV workplace structures

Assess existing HIV/AIDS Workplace programme structures	TB Programmatic Actions
Is there a baseline HIV questionnaire for the workplace?	▪ Explore the possibility of including questions on TB.
Is there an HIV Focal Person/Coordinator in the workplace?	▪ Explore the possibility of training the HIV Focal Person to undertake TB activities (TB/HIV Focal Person) or identify and train another worker to be TB Focal Person.
Is there an HIV Steering Committee?	▪ Explore the possibility of training the steering committee to undertake TB activities. Consider changing the name to TB/HIV Steering Committee.
Is HIV education undertaken as part of the Induction/orientation for new employees?	▪ Explore the possibility of including TB in the induction for new employees.
Is there a HIV/AIDS curriculum for training Peer educators and Steering Committee members?	▪ Explore the possibility of including TB into the HIV training curricula.
Is HIV integrated into existing Occupational Safety and Health (OSH) structures?	▪ Explore the possibility of integrating TB into the OSH structures.
Have IEC materials been developed for HIV and are some in the process of being developed?	▪ Explore the possibility of developing TB IEC material.
Does the workplace programme have a Project Advisory Board (PAB) or Tripartite Advisory Board?	▪ Explore the possibility of including representatives from the National TB Programme as well as from the constituency of TB patients. (Step 3)
Is there a HIV Workplace policy?	▪ Explore the possibility of adapting the HIV policy to address TB (TB/HIV Policy).
Are there trained Peer educators and Counsellors (from the enterprise and community)?	▪ Explore the possibility of upgrading the skills of Peer educators and Counsellors to include TB education.
Have the onsite health workers been trained in HIV/AIDS issues?	▪ Explore the possibility of training the onsite workers in TB and related issues.
Is VCT undertaken periodically in the workplace for employees?	▪ Explore the possibility of encouraging passive case finding for TB at the workplace.
Are there support groups at the workplace or in the community addressing HIV?	▪ Explore the possibility of including TB in the activities of the Support Groups.
Is there a monitoring and evaluation framework for the HIV workplace programme?	▪ Explore the possibility of including TB Indicators.
Is there a MOU between the ILO and the enterprise?	▪ Explore the possibility of including TB in the MOU.

Step 6 – Baseline survey at the workplace

The purpose of this step is to generate valuable information to guide the programme design, implementation and M&E framework. Sound evidence is key to effective programme design and also provides a benchmark and basis for comparison with post intervention surveys.

The baseline survey will provide information on the knowledge attitudes and practices (KAP) of the male and female workers and the nature of TB in the workplace and the surrounding communities as well as inform the priorities for action. The baseline could also provide useful information on the TB risk factors (Fig 1) and potential entry points for integration (Fig 3). It may be possible to obtain information from the onsite clinic (if present) on absenteeism related to TB, staff turnover related to TB and/or HIV, TB incidence, etc. **Since a baseline survey is quite expensive, a cost-effective approach is to undertake the survey by obtaining representative samples from different enterprises with similar demographic profiles.** This approach is more cost-effective than undertaking baseline surveys in each individual enterprise. The baseline survey approach may include a combination of different approaches such as using structured questionnaires and focus group discussions. It provides the basis for comparison after project implementation and evaluation.

Some of the issues that could be covered by the baseline survey include the following:
- Demographics, such as population size, sex distribution and age distribution of the workforce and host community.
- Knowledge, Attitudes and Practices on TB
- Burden of disease (the level of morbidity and mortality caused by a disease, within a given area or target population) and epidemiology of HIV and/or TB in the community and workforce.
- General standard of living within the study area, with the identification of vulnerable groups.
- Existing health services in terms of type, mix, quality, location, access and equity.
- Socio-economic status (variably defined as a mix of income, material assets, status indicators, education, and occupation).
- Workforce housing, accommodation type and location.
- Ethnicity, if it influences health.
- Access to clean water and sanitation.
- Food consumption and nutrition.
- Policy environment and political factors, such as levels of support for social services and health care services in the area.
- Government capacity to provide services.
- Details of existing workforce and/or community programs targeting HIV/TB.
- Assessment of additional risk factors for TB such as silica exposure, confined workplaces, levels of ventilation, drug and alcohol use, stress levels, etc.
- NOTE: It is important to disaggregate all findings by sex

A WHO and Stop TB Partnership tool: '*a guide to developing Knowledge, Attitudes and Practices survey*' is recommended as a useful tool when developing baseline surveys. The link is included in the annex. The findings of the baseline survey should be shared with management, workers, and other groups within the workplace such as peer educators, focal persons, health staff, steering committee members and tripartite project advisory board (PAB) members as part of the advocacy efforts. Outside the enterprise the baseline findings may be shared with the local government, non governmental organizations in the region, community based organizations, community and religious leaders, community health agencies and networks of people living with TB and HIV.

Step 7: Programme Implementation

The purpose of this step is to highlight the key principles and components of a good TB/HIV workplace programme.

Effective implementation commences with target setting.

Target setting
The baseline survey should provide the basis for:
- Defining the **goal** of the programme. (It should describe the impact the workplace programme is intended to have on the beneficiaries of the programme)
- Setting the **objectives** of the programme.

Programme Implementation
The implementation of the TB/HIV workplace programme builds on the earlier steps in this guide. The following should thus be clear before implementation commences
- A good understanding of the key principles of implementation (page 4)
- Adequate information on TB within your context (step 1)
- A number of identified enterprises/workplaces (step 2)
- Strong management support for TB/HIV workplace programmes in identified enterprises/workplaces (step 3)
- An identified number of partners (step 4)
- An assessment of what exists in the HIV workplace programme (step 5)
- A baseline survey conducted in the identified enterprises/workplaces (step 6)

Important
Programmes must aim to reduce the burden of TB in people living with HIV, and HIV in people living with TB.
HIV/TB workplace programmes can be built on existing HIV workplace programmes.
Each enterprise, irrespective of its size, can implement some components of an HIV/TB workplace programme.

Activities
A wide range of TB/HIV workplace activities exist. This guide presents a basket of opportunities for large and small enterprises (Fig 4). The choice of specific activities depends on the available resources. Smaller enterprises are specifically encouraged to establish referral mechanisms with public sector providers (where they are unable to provide some services)

Fig 4: Possible TB/HIV Workplace Activities

Small Enterprises (↕) **Multi-National Enterprises**	1. Undertaking TB awareness raising and education programmes for workers and management
	2. Undertaking TB awareness raising and education programmes for the community
	3. Training peer educators to undertake comprehensive TB/HIV education
	4. Development of a TB/HIV workplace policy
	5. Integration of TB into Occupational Safety and Health structures in the workplace, including training of health care workers
	6. Establishing referral mechanisms to public/private health facilities (where the enterprise does not offer onsite clinics) and other stakeholders in the region
	7. Undertaking joint VCT and passive TB screening
	8. Undertaking joint VCT and active TB screening
	9. Undertaking dust control activities (appropriate in mining and construction settings)
	10. Setting up environmental measures to improve ventilation and workplace cleanliness
	11. Training of treatment supporters in the workplace to support workers with TB in the workplace (DOTs in the workplace) to help ensure adherence
	12. Ensure the delivery of TB drugs to the workplace
	13. For enterprises with onsite clinics/hospitals, detection of TB through onsite clinics
	14. For enterprises with onsite clinics/hospitals, provision of DOTS and ART
	15. Provision of TB preventive therapy for workers and their families
	16. Ensure uninterrupted supply of TB drugs, including second and third line drugs for MDR-TB and XDR-TB
	17. Establishment of a workplace laboratory for sputum collection and microscopy
	18. Undertaking sputum culture and drug sensitivity testing at the workplace
	19. M&E system for monitoring TB/HIV programmes and meeting National TB Programme notification requirements
	20. Outsourcing clinic facilities, X-ray services, etc

Important dates/events
- The World TB Day on **March 24** should be used as an opportunity to highlight TB/HIV activities.
- The World AIDS Day on **December 1** should also be used as an opportunity to highlight TB/HIV activities.

The following should be remembered during the implementation of TB/HIV workplace programmes
- Programmes must aim to reduce the burden of TB in PLHIV and HIV in TB patients
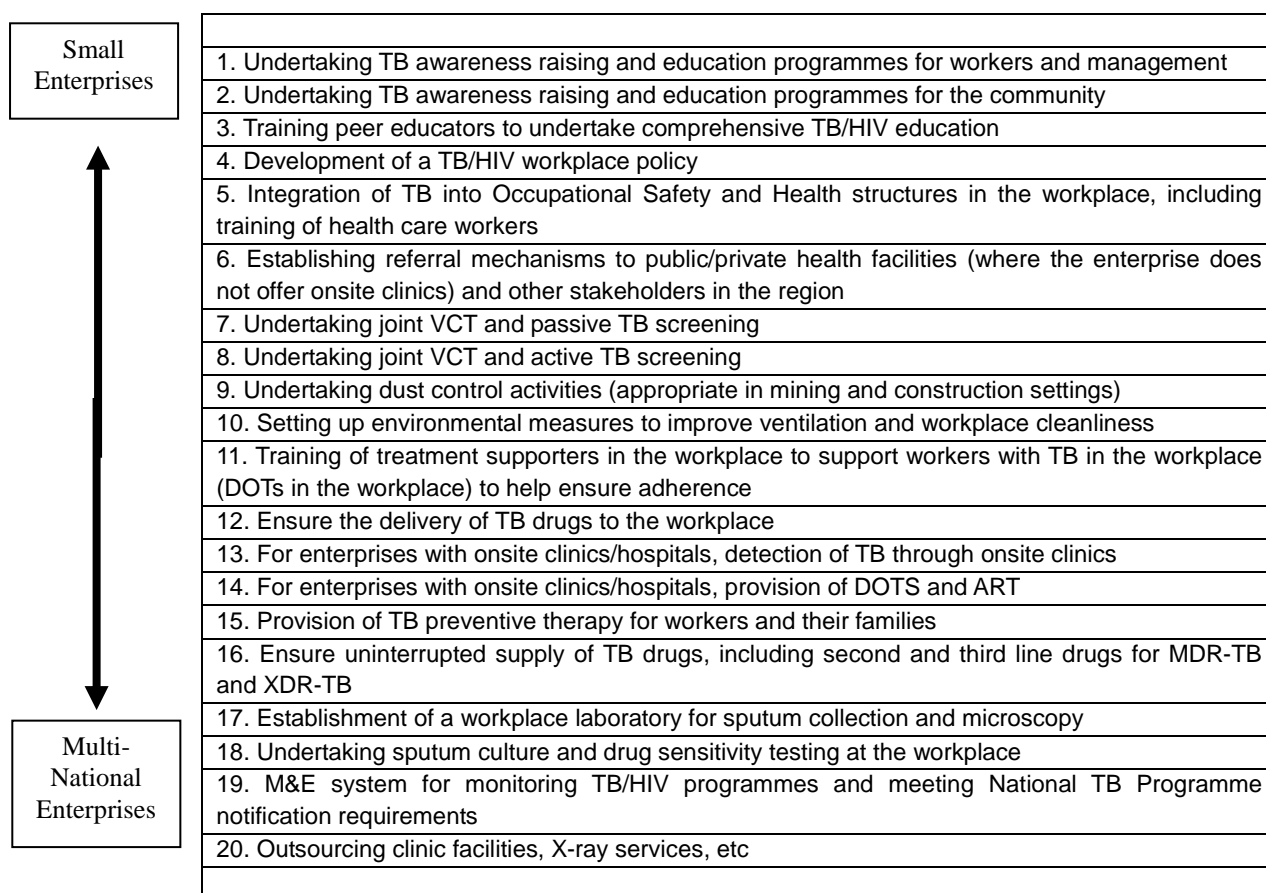- TB/HIV workplace programmes must build upon what exists in the HIV workplace programme
- Each enterprise, irrespective of its size, can implement some components of TB/HIV workplace programmes

Step 8: Monitoring and Evaluation

The purpose of this step is to ensure that TB/HIV workplace programmes are monitored by a combination of TB, TB/HIV and HIV indicators. Gender disaggregated data is also important. A project evaluation survey is recommended periodically to assess long term changes.

Monitoring and evaluation are integral components of any TB/HIV workplace programme and should be built into planning from the start.

The aims of this step are to:
- Integrate into existing HIV workplace programme M&E frameworks, TB and TB/HIV indicators that enable the regular monitoring of the programme against set targets.
- Provide a solid evidence base for any necessary changes in the direction of the TB/HIV workplace programme.
- Use sex-disaggregated data to make sure that programmes meet the needs of women and of men.

This guide provides examples of two sets of indicators. The first set consists of TB/HIV Indicators (Fig 5) whiles the second set consists of TB indicators (Fig 6). Selected indicators must be integrated into existing M&E framework of ongoing HIV/AIDS workplace programme.

Fig 5: Examples of TB/HIV Monitoring and Evaluation Indicators

	Focus	Indicators
Output	TB/HIV Collaborative Activities	% of PLHIV attending HIV services screened for TB
		% of newly diagnosed and eligible PLHIV offered intermittent preventive treatment
		% of TB patients HIV tested and counselled
		% of TB patients HIV patients offered ART
Outcome/Impact	Decreasing the burden of TB in PLHIV	% of PLHIV diagnosed with active TB annually and placed on treatment
	Decreasing the burden of HIV in TB patients	Mortality rate in registered TB patients both during and following TB treatment
	Decreasing the overall burden of TB and HIV in the workforce	% of the workforce who test positive in an HIV prevalence survey
		% of undiagnosed active TB diagnosed in a TB prevalence survey
		Rate of new HIV diagnosed in the workforce
		Rate of active TB in the workplace Levels of absenteeism and loss of productivity

Adapted from the ICMM Manual on Good Practice Guidance on HIV/AIDS, TB and Malaria (2008)

Fig 6: Examples of TB indicators

1.0	Number (%) of workers who demonstrate increased knowledge of TB symptoms
2.0	Number of workers referred to TB health facilities
3.0	Number (%) of TB cases diagnosed (smear negative)
4.0	Number (%) of workers who completed TB treatment
5.0	% of registered TB cases for which treatment outcome is known
6.0	% of registered TB cases for which treatment outcome is unknown
7.0	% of registered TB cases who die from TB (Case fatality rate)
8.0	% of smear positive cases that convert to smear negative at the end of treatment
9.0	% of workers who failed treatment or defaulted

Adapted from the ICMM Manual on Good Practice Guidance on HIV/AIDS, TB and Malaria (2008)

SECTION 2

(This section is designed to provide basic information on TB and HIV)

TB and HIV Statistics

TB and HIV Statistics (2009)

1. Globally, there were an estimated 9.27 million incident cases of TB in 2007

2. A breakdown of the number of estimated TB cases in 2007 is as follows
   a. Asia (55%)
   b. Africa (31%)
   c. East Mediterranean Region (6%)
   d. European Region (5%)
   e. Americas (3%)

3. Of the 9.27 million incident TB cases in 2007, 1.37 million (15%) were HIV positive

4. Of the 15% TB/HIV incident cases in 2007,
   a. 79% were from Africa and
   b. 11% were from South East Asia

5. 26% of estimated TB deaths in 2007 had HIV

6. 23% of estimated HIV deaths in 2007 had TB

7. There are 22 countries described as TB High Burden Countries (HBCs). The list of the 22 HBCs is included in annex 1

8. The 22 HBCs account for 80% of the worlds total TB cases

9. 15 out of the 27 countries with MDR-TB are in the European Region

10. By the end of 2008, 55 countries and territories had reported at least one case of XDR-TB

Source: WHO Global Tuberculosis Control (2009)

Questions and answers on TB and HIV

1. What is TB?

Tuberculosis (TB) is a disease caused by a bacterium called Mycobacterium tuberculosis (M.tb). When inhaled, the airborne droplets first reach the lungs and then other parts of the body such as the brain, spine, joints or intestines via the blood stream.

2. How does TB spread?

TB is spread from an infectious person to a vulnerable person through air. Like the common cold, TB is spread through droplets after infected people cough, sneeze, speak, or laugh. People nearby, if exposed long enough, may breathe in bacteria in the droplets and become infected. People with TB of the lungs are most likely to spread bacteria to those with whom they spend time every day – including family members, friends and **work colleagues**. This is one reason why TB is a workplace issue.

3. How is TB not spread?

Remember, tuberculosis is spread through the air. People cannot get infected with tuberculosis bacteria through handshakes, sitting on toilet seats, or sharing dishes, utensils and tables with someone who has tuberculosis.

4. What is the difference between latent TB infection and TB disease?

A person infected with TB does not necessarily feel ill. Such cases are known as 'latent' infections'. At this stage, the person is said to have TB infection. When the lung disease becomes active and symptoms become prominent, we say the person has TB disease. People with latent TB do not feel ill, do not have symptoms and cannot spread TB. If they develop TB disease later, then they can spread it if it is not promptly treated. When TB bacteria become active because the immune system has become weak due to any reason, the bacteria multiply and cause disease. Table 1 summarizes the difference between Latent TB and TB disease.

Table 1: Latent TB and TB Disease

A Person with Latent TB Infection	A Person with TB Disease
• Has no symptoms	• Has symptoms
• Does not feel sick	• Usually feels sick
• Cannot spread TB bacteria to others	• May spread TB bacteria to others
• Usually has a skin test or blood test result indicating TB infection	• Usually has a skin test or blood test result indicating TB infection
• Has a normal chest x-ray and a negative sputum smear	• May have an abnormal chest x-ray, or positive sputum smear or culture
• **Needs treatment for latent TB infection to prevent active TB disease**	• **Needs treatment for active TB disease**

5 What should I do if I have latent TB?

If an individual has TB infection, and is living in a context where there is a high prevalence of TB and/or HIV, he/she can take medicine to slow down the development of TB disease. This kind of treatment is known as TB preventive therapy. Isoniazid® is normally used for TB preventive therapy. Isoniazid® kills inactive bacteria in the body and will keep a person from developing TB disease.

6. How soon after exposure do TB symptoms appear?

Most persons infected with TB bacteria never develop TB disease because of their strong immune system. If TB disease does develop, it can occur 2 to 3 months after infection or years later. The chances of TB infection developing into TB disease lessen with the passage of time.

7. What are the symptoms of TB?

When the lung infection by Mycobacterium tuberculosis becomes 'active' (TB disease) the symptoms include the following:
- cough (more than 2 or 3 weeks),
- weight loss,
- loss of appetite,
- fever,
- night sweats,
- coughing up blood
- Weakness or fatigue
- Loss of appetite
- Chills

8. How is TB diagnosed?
- A complete medical history
- A physical examination
- A tuberculin skin test
- Laboratory test including (a) chest x-ray; (b)blood test; (c) microscopic examination of sputum (d) culturing the sputum for TB bacteria

9. What is pulmonary TB?

Pulmonary TB is TB which affects the lungs. This is the more common form of TB. Pulmonary TB is also an infectious form of TB.

10. What is extra-pulmonary TB

Extra-pulmonary TB affects other parts of the body outside the lungs example: lymph nodes, brains, kidneys or bones. In general it is more difficult to diagnose extra-pulmonary TB. Diagnosis may often require invasive procedures to obtain diagnostic specimen and more sophisticated laboratory techniques than sputum microscopy.

11. Is TB curable?

Yes, TB is curable. It can also be cured in people living with HIV. Directly Observed Training Short course (DOTS) is the internationally recommended strategy to control TB. It is important that people with the disease are identified as early as possible so that they can start treatment promptly. Contacts

can also be traced for investigation for TB and measures can be taken to minimize the risk to others. It is however important to state that some strains of bacteria have now acquired resistance to one or more of the antibiotics commonly used to treat them; known as drug-resistant strains. There are more expensive medicines capable of treating drug-resistant forms of TB.

12. What is the duration of treatment for TB?

In most cases, TB disease can be cured with anti-TB drugs. To be effective, the drugs must be taken exactly as prescribed. Treatment usually involves a combination of several different drugs. Because TB bacteria die very slowly, anti-TB drugs must be taken for <u>6 months</u> or longer.

13. What is DOTS?

DOTS or Directly Observed Treatment Short course is the internationally recognized strategy for TB control. It has been recognized as highly efficient and cost-effective. The 5 components of DOTS are:
   a. Political commitment with increased and sustained financing
   b. Case detection through quality-assured bacteriology
   c. Standardized treatment with supervision and patient support
   d. An effective drug supply and management system
   e. Monitoring and evaluation system and impact measurement

The 5 components of DOTS could be implemented to different extents in the workplace based on the size of the workplace and resources available.

14. Why should a patient with TB take medicines?

TB is curable if the appropriate medicines are taken over the required period. It takes at least 6 months for the medicine to kill all the tuberculosis bacteria. The patient may start feeling well after only a few weeks of treatment but should not stop the medication because the TB bacteria are still alive in the body. The patient must continue to take the medication even if he/she feels better and has no more symptoms.

Stopping the medication can be very dangerous. The TB bacteria will grow again and the person will remain sick for a longer time. Also, the bacteria may become resistant to the drugs being taking leading to the development of drug-resistant forms of the bacteria. This will require newer and more expensive drugs to treat. These new drugs must be taken for a longer period and usually have more serious side effects.

If a person becomes infectious again, TB could be transmitted to their family, friends, or anyone else who spends time with them. It is very important to take the medication as prescribed by the doctor, pharmacist or nurse.

15. How a patient with TB can remember to take medicines

The only way to get well is to take the medication exactly as the doctor, pharmacist or nurse advised. This will not be easy since the medication is usually taken over a long period (6 months or longer). It is helpful to get into some routine when taking the medication. Here are some ways to remember to take the medication:

   i.   Participate in the directly observed therapy (DOT) program in a health department near you.
   ii. Take pills at the same time every day -- for example, pills can be taken before eating breakfast, during a coffee break, or after brushing teeth.
   iii. Ask a family member or a friend to remind you to take your pills.
   iv. Take pills with the support of a trained treatment supporter in your **workplace**.

v. Mark off each day on a calendar as the medication is taken.
vi. Put pills in a weekly pill dispenser. Keep it by your bed, or in your purse or pocket.

NOTE: Remember to keep all medicine out of reach of children.

NOTE: If a patient forgets to take their pills one day, he/she should skip that dose and take the next scheduled dose. Tell the doctor, pharmacist or nurse that a dose was missed. The patient may also call the doctor, pharmacist or nurse for further instructions.

16. How do we promote treatment adherence?

A checklist for the successful promotion of adherence to treatment includes the following:
a. Service and medication are offered free of charge and have guaranteed supply
b. Directly observed treatment in the workplace should be in a private room to preserve confidentiality and comfort
c. The TB treatment supporter who directly observes treatment must be acceptable to the patient
d. The TB treatment supporter must be well trained and supervised
e. The DOT appointment is organized so as not to disrupt the patient's daily routine

17. What is the epidemiology of TB?

Tuberculosis can be found on every continent and in every nation. TB can affect anyone of any age.

18. Who is at risk of contracting TB

Some people are at an increased risk to contracting TB. This includes:

a. Babies and young children, often with weak immune systems
b. People living with HIV
c. People involved in substance abuse
d. People with diabetes
e. People with silicosis
f. People with cancer of the head or neck
g. People with Hodgkin's disease
h. People with severe kidney disease
i. People with low body weight
j. People on specific treatments such as immuno-suppressant medication (example corticosteroid treatment)
k. Elderly people
l. People living and/or working in cramped conditions

19. Who should get tested for TB?

It is useful to get tested if:
m. You have spent time with a person with infectious TB
n. You have HIV infection or another condition that puts you at risk (including those described in qn. 17)
o. You think you might have TB
p. You are from a country with high TB prevalence
q. You inject drugs
r. You are in a high HIV prevalence country

20. What can I do to stop the spread of TB if I'm infected?

The most important way to keep from spreading tuberculosis is to take all the medicine, exactly as prescribed by the doctor, pharmacist or nurse. You should also keep all of your clinic appointments!

You must stay in the room so that do not spread TB bacteria to other people. Ask a nurse if you need anything that is not in your room.

If you are infectious while you are at home, there are certain things you can do to protect yourself and others near you. Your doctor may tell you to follow these guidelines to protect yourself and others:

- Take your medicine.
- Always cover your mouth with a tissue when you cough, sneeze, or laugh. Put the tissue in a closed paper sack and throw it away.
- Do not go to work or school. Separate yourself from others and avoid close contact with anyone. Sleep in a bedroom away from other family members.
- Air out your room often (if it is not too cold outside) TB spreads in small closed spaces where air doesn't move. Put a fan in your window to blow out air that may be filled with TB bacteria. If you open other windows in the room, the fan also will pull in fresh air. This will reduce the chances that TB bacteria stay in the room and infect someone who breathes the air.
- NOTE: Think about people who may have spent time with you, such as family members, close friends, and **co-workers**. The local health department may need to test them for TB infection.

21. What environmental controls can be used to control TB?

Interventions to prevent or reduce airborne transmission of suspected or diagnosed cases of TB to non-infected employees include increased ventilation to clean air through dilution or removal of infectious droplets nuclei. The following measures are useful in improving the circulation of air starting with the cheapest option to the most expensive
a.   Open windows and doors to facilitate circulation
b.   Install air filtration systems within the existing heating and/or air conditioning systems
c.   Install air disinfection devices
d.   Install a directional air flow ventilation, air conditioning or heating system

22. What is MDR-TB?

MDR-TB is a form of TB that does not respond to the standard 6 month treatment using first line drugs (i.e. resistant to isoniazid and rifampicin). It can take 2 years to treat with drugs that are more expensive and more toxic. If drugs for MDR-TB are mismanaged, further resistance can occur.

23. What causes MDR-TB?

Drug resistance is more common in people who:
a. Were not prescribed with correct medication
b. Spent time in the presence of someone with MDR-TB
c. Do not take their TB medication regularly
d. Do not take all their TB prescription medication
e. Take the wrong medication
f. Take the wrong dose of their TB medication
g. Take poor quality TB medicines

24. Can MDR-TB be cured?

Yes, MDR-TB is curable with second line TB medicines if taken as prescribed and the course

completed. It is worth noting that second line TB medication is taken over a longer period and has more side effects.

25. What is XDR-TB?

XDR-TB is due to bacteria that are resistant to any fluoroquinolone, and at least one of three injectable second-line drugs (capreomycin, kanamycin and amikacin), in addition to isoniazid and rifampicin. This is a revised definition of XDR-TB, on which the WHO Global Task Force on XDR-TB agreed in October 2006. Because XDR-TB is resistant to first- and second-line drugs, treatment options are seriously limited and so are the chances of cure.

26. How do people develop XDR-TB?

People who are ill with pulmonary TB (TB of the lungs, the site most commonly affected) are often infectious and can spread the disease by coughing, sneezing or simply talking, as these acts propel TB bacteria into the air. Another person breathing in these bacteria may become infected with TB but without disease; only the TB skin test becomes positive. If the bacteria overcome the body's immune system, the person becomes ill with TB. A person ill with TB develops XDR-TB when first- and second-line anti-TB drugs are misused or mismanaged during the course of treatment and become ineffective (that is, when drugs are taken in the wrong combination, are fewer than those prescribed or taken in insufficient doses or insufficient time). People with XDR-TB can be infectious and pass the drug-resistant bacteria to other people.

27. How easily is XDR-TB spread?

There is probably no difference between the speed of transmission of XDR-TB and those of any other forms of TB. The spread of TB bacteria depends on factors such as the number and concentration of infectious people in any one place and the time of exposure, along with the presence of people with a higher risk of being infected, such as those with HIV/AIDS.

28. Can XDR-TB be cured?

Several countries with good TB control programmes have shown that up to 50-60% of affected people can be cured. Nevertheless, successful treatment also depends greatly on the extent of the drug resistance, the severity of the disease and whether the patient's immune system is compromised.

29. Can vaccination prevent XDR-TB?

The TB vaccine, called the BCG vaccine, prevents severe forms of TB in children, such as TB meningitis. BCG would be expected to have the same effect in preventing severe forms of TB in children, even if they were exposed to XDR-TB, but it may be less effective in preventing TB in adults. New vaccines are urgently needed, and WHO and members of the Stop TB Partnership are actively working on new vaccines.

30. What is the link between TB and HIV?

HIV/AIDS and TB are so closely interrelated that the term 'co-epidemic' or 'dual-epidemic' is often used to describe their relationship. The intersecting epidemic is denoted as TB/HIV or HIV/TB. HIV promotes the progression of latent TB to active disease and the relapse of the disease in previously treated patients. Each disease speeds up the progress of the other and TB considerably shortens the survival rate of people living with HIV. People who are HIV positive and infected with TB are more likely to develop active TB in a given year than people who are HIV negative. HIV infection is the most potent risk factor for converting latent TB into active TB, while TB bacteria accelerate the progress of AIDS infection in the patient. Many people infected with HIV in developing countries develop TB as the first manifestation of AIDS. The 2 diseases represent a deadly combination, since they are more destructive together than either disease alone. Additionally,

- TB is harder to diagnose in HIV-positive people
- TB progresses faster in HIV-infected people
- TB in HIV-positive people is almost certain to be fatal if undiagnosed or left untreated.
- TB occurs earlier in the course of HIV infection than many other opportunistic infections

31. What is the impact of TB and HIV on the workplace?

The impact of TB and HIV on the workplace may include any the following:

- Loss of skills and experience
- Disruption of workflow
- Reduction of productivity
- Increase in direct cost (treatment and care)
- Increase in indirect cost (replacement and retraining of workers)
- Increase in absenteeism
- Reduction in profits and investment

The impact of TB and HIV on the workplace is significant. TB/HIV workplace programmes thus make business sense as they contribute towards reducing the impact and sustaining the profitability of businesses

32. How is the workplace positioned to effectively address TB and HIV?

The workplace is specifically suited to address TB/HIV because of the following:

- It provides access to a large number of workers (who spend a lot of time at work)
- Workers have the opportunity to attend regular sessions at work
- The workplace has communication systems in place which could be used to address TB/HIV
- The workplace has existing structures in place which could be used to address TB/HIV
- The workplace may have onsite clinic facilities available for prevention, treatment, care and support
- Companies have analytical processes useful in the battle against HIV/AIDS

33. What are some of the risk factors to TB in the workplace?

Some workplaces or some sectors could facilitate the spread of TB more than others due to certain associated risk factors. Workers in workplaces with the following characteristics are likely to be more at risk to TB infection:

- Workplaces where workers work in cramped conditions with overcrowding.
- Workplaces with very poor ventilated areas
- Workplaces in locations with high TB and/or HIV prevalence
- Workplaces where workers have poor diets and poor nutritional status leading to low immunities
- Workplaces where workers have high levels of stress
- Workplaces where workers have poor health care and poor access to health care facilities
- Workplaces where workers live in cramped living conditions
- Workplaces with exposure to silica dust and silicosis
- Workplaces where workers are exposed to substance abuse
- Workplaces where workers are exposed to people with TB
- Workplace where workers are exposed to used needles and syringes

The selection of workplaces for TB/HIV workplace programmes should be influenced by TB risk factors

34. What is the role of worker representatives and employers?

Cooperation between management and workers or their representatives is an essential element of the organizational measures that need to be taken in order to control and prevent TB in the workplace. Employee participation has been identified as a major determinant of successful prevention and management of a number of diseases and health problems in the workplace. Employees and Employers must be involved at all stages in the implementation of TB/HIV workplace programmes.

35. Why is it important to have combined TB/HIV programmes?

HIV/AIDS is dramatically fuelling the TB epidemic in sub-Saharan Africa, where up to 70% of TB patients are co-infected with HIV in some countries. For many years, efforts to tackle HIV and TB have largely separate, despite the overlapping epidemiology. Improved collaboration between TB and HIV/AIDS programmes will lead to more effective control of TB among people living with HIV and HIV among TB patients leading to significant public health gains. Many donors currently encourage the implementation of joint TB/HIV programmes in countries with dual epidemics.

36. Is there a need to avoid missed opportunities in TB/HIV collaborative programmes?

People living with HIV can easily be screened for TB. If they are infected, they can be given prophylactic treatment to prevent development of the disease or curative drugs if they already have the disease. TB patients can be offered an HIV test and provided with treatment if necessary. This means TB programmes can make a contribution to identifying eligible candidates for ARV treatment. All HIV programmes in countries with dual epidemics must initiate steps to integrate TB and vice versa. This approach is cost-effective and reduces the missed opportunity in joint HIV and TB programmes.

37. What should be the focus of TB/HIV programmes?

TB/HIV workplace programmes should focus on the following areas:
- Reducing the burden of TB in people living with HIV
- Reducing the burden of HIV in TB patients
- Increasing information and awareness on TB/HIV symptoms, risk factors, vulnerability factors, stigma, discrimination as well as prevention, treatment, care and support services.
- Improving quality of life and productivity of work.

38. What is the impact of TB on women?

Once infected with TB, women of reproductive age are more susceptible to developing TB disease than men of the same age. Women of this age group are at greater risk of becoming infected with HIV. Women also bear a significant burden by caring for HIV and TB patients.

Annex 1

22 TB High Burden Countries (HBCs): Countries with the largest population of people with TB infection

1. India
2. China
3. Indonesia
4. Nigeria
5. South Africa
6. Bangladesh
7. Ethiopia
8. Pakistan
9. Philippines
10. DR Congo
11. Russian Federation
12. Viet Nam
13. Kenya
14. Brazil
15. Tanzania
16. Uganda
17. Zimbabwe
18. Thailand
19. Mozambique
20. Myanmar
21. Cambodia
22. Afghanistan

Source: WHO Global Tuberculosis Control (2009)

15 Countries with the highest rate of TB per capita: Countries with the largest proportion (prevalence) of people with TB infection

1. Swaziland
2. South Africa
3. Djibouti
4. Zimbabwe
5. Namibia
6. Botswana
7. Lesotho
8. Sierra Leone
9. Zambia
10. Cambodia
11. Mozambique
12. Togo
13. Cote d'Ivoire
14. Gabon
15. Congo

Source: WHO Global Tuberculosis Control (2009)

Annex 3

Suggested reading

ILO/WHO Guidelines for Workplace TB Control Activities, 2003 (can be accessed online at http://whqlibdoc.who.int/publications/2003/9241546042.pdf)

WHO Interim Policy on Collaborative TB/HIV Activities, 2004 (can be accessed online at http://www.who.int/hiv/pub/tb/tbhiv/en/)

WHO Strategic Framework to decrease the burden of TB/HIV, 2002 (can be accessed online at http://www.who.int/tb/publications/who_cds_tb_2002_296/en/)

Guidelines for implementing TB and HIV collaborative programme activities, 2003 (can be accessed online at http://www.who.int/hiv/pub/tb/pub31/en/index.html)

WHO Stop TB Information Pack on TB and HIV/AIDS, 2004 (can be accessed online at http://www.stoptb.org/news/archives/iacxv/assets/InfoPack/InfoPackEnglish.pdf)

ICMM Good Practice Guidance on HIV/AIDS, Tuberculosis and Malaria, 2008(can be obtained from the International Council of Mining and Metals)

WHO Guide to developing Knowledge, Attitudes and Practices Surveys, 2008 (can be accessed online at http://www.stoptb.org/resource_center/assets/documents/ACSM_KAP%20GUIDE.pdf

An ILO Code of Practice on HIV/AIDS and the World of Work (can be accessed online at http://www.ilo.org/public/libdoc/ilo/2001/101B09_133_engl.pdf

Recommendation concerning HIV and AIDS and the World of Work, 2010 (No.200) (can be accessed online at http://www.ilo.org/aids/lang--en/WCMS_142706/index.htm)